

Title (en)
SYSTEM FOR ICE DETECTION/PREVENTION AND FLOW CONTROL BASED ON THE IMPRESSION OF SLIDING PLASMA ACTUATORS WITH DIELECTRIC DISCHARGE BARRIER

Title (de)
SYSTEM ZUR EISDETEKTION/-PRÄVENTION UND DURCHFLUSSKONTROLLE BASIEREND AUF DEM EINDRUCK VON VERSCHIEBBAREN PLASMAAKTUATOREN MIT DIELEKTRISCHER ENTLADUNGSSPERRE

Title (fr)
SYSTÈME DE DÉTECTION/PROTECTION ANTIGEL ET DE RÉGULATION D'ÉCOULEMENT BASÉ SUR L'IMPRESSION D'ACTIONNEURS PLASMA À GLISSEMENT AVEC BARRIÈRE DIÉLECTRIQUE DE DÉCHARGE

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Abstract (en)
The present invention relates to an ice detection/protection and flow control system based on printing of dielectric barrier discharge sliding plasma actuators. This invention has advantages such as: reduced weight, low maintenance cost, no environmental impact, fully electric operation and combination of functionalities (ice detection, deicing, anti-icing and flow control). The system comprises the following components: exposed AC electrode (1), dielectric layer (2), embedded electrode (3), sliding/nanosecond electrode (4), ground plane (5), AC power supply (6), DC power supply (7), nanosecond range pulse generator (8), monitoring capacitor (9), high voltage probe (10), control module (11), temperature sensor (12), control signal input module (13) and monitoring system (14). The system senses ice formation and generates extensive surface heating to prevent ice accumulation.

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